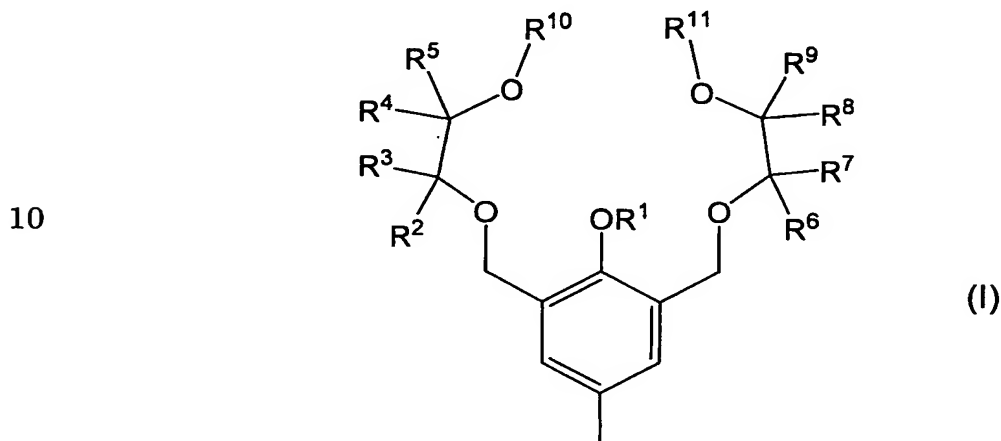


CLAIMS

1. A fluorescent molecular wire comprising a fluorescent polymer main chain to which an optically active substituent is linked so as to be a conjugatable form, the optically active substituent being represented by the following formula (I):



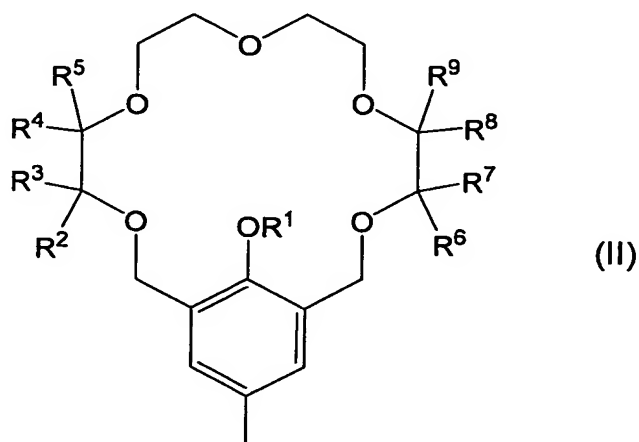
- 15 where R¹ represents a hydrogen atom or an alkyl group having 1 to 10 carbon atoms; R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, and R⁹ represent independently a hydrogen atom, a linear alkyl group having 1 to 30 carbon atoms that may have a substituent, a branched alkyl group having 2 to 30 carbon atoms that may have a substituent, a cyclic alkyl group having 3 to 30 carbon atoms that may have a substituent, an aryl group having 6 to 30 carbon atoms that may have a substituent, or an aralkyl group having 7 to 30 carbon atoms that may have a substituent, and R³ and R⁷ may be bonded respectively to R⁴ and R⁸ to form an alkylene group having 2 to 60 carbon atoms that may have a substituent; and R¹⁰ and R¹¹ represent
- 20 independently a hydrogen atom or an alkyl group having 1 to 15 carbon atoms that may have a heteroatom, and R¹⁰ and R¹¹ may be bonded to form an alkylene group having 2 to 30 carbon atoms that may have a
- 25

heteroatom.

2. The fluorescent molecular wire of claim 1, wherein the polymer main chain is a polyarylene structure, a poly(arylene ethynylene) structure, or a poly(arylene vinylene) structure, preferably, a polyphenylene structure, a polythiophene structure, a poly(phenylene thiophenylene) structure, a poly(phenylene ethynylene) structure, a poly(thiophenylene ethynylene) structure, or a poly(phenylene vinylene) structure.

3. The fluorescent molecular wire of claim 1 or 2, wherein the optically active substituent is coupled to the polymer main chain via mono- or poly-arylene, mono- or poly-alkylene, mono- or poly-vinylene, or a combination thereof.

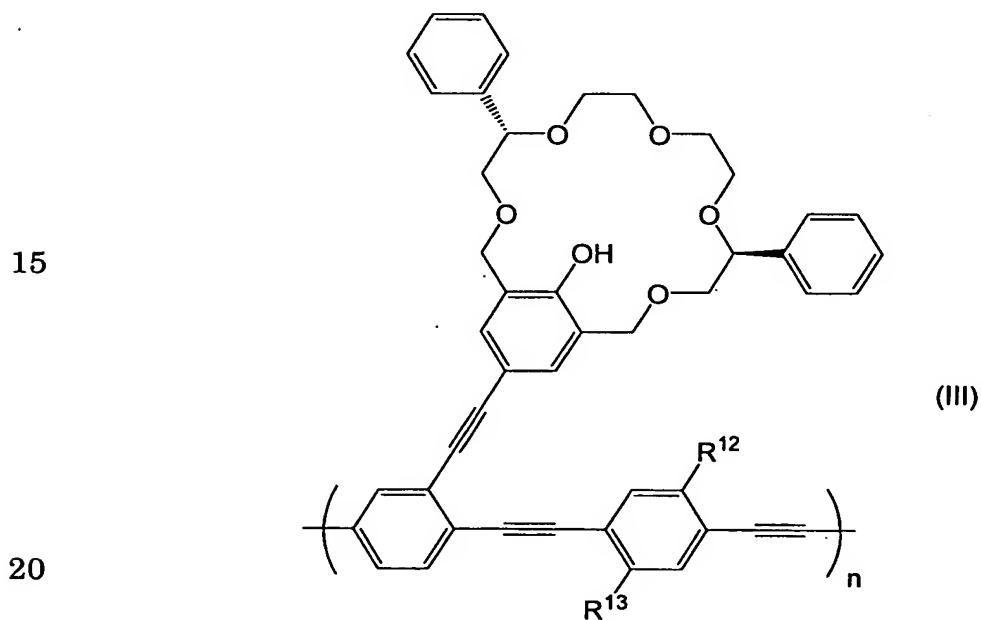
4. The fluorescent molecular wire of any one of claims 1 to 3, wherein the optically active substituent is represented by the following formula (II):



where R¹ represents a hydrogen atom or an alkyl group having 1 to 10 carbon atoms; and R², R³, R⁴, R⁵, R⁶, R⁷, R⁸, and R⁹ represent independently a hydrogen atom, a linear alkyl group having 1 to 30

carbon atoms that may have a substituent, a branched alkyl group having 2 to 30 carbon atoms that may have a substituent, a cyclic alkyl group having 3 to 30 carbon atoms that may have a substituent, an aryl group having 6 to 30 carbon atoms that may have a substituent, or an aralkyl group having 7 to 30 carbon atoms that may have a substituent, and R³ and R⁷ may be bonded respectively to R⁴ and R⁸ to form an alkylene group having 2 to 60 carbon atoms that may have a substituent.

5. The fluorescent molecular wire of claim 4, which is represented by the following formula (III):



where R¹² and R¹³ represent independently a hydrogen atom, an alkyl group having 1 to 20 carbon atoms, an alkoxy group having 1 to 20 carbon atoms, a di- or mono-alkylamide group having 1 to 20 carbon atoms, or an alkyl ester group having 1 to 20 carbon atoms; and n is an integer of 5 or more.

6. A chiral sensor comprising the fluorescent molecular wire of any one of claims 1 to 5.